

how to use
and enjoy you
**sewing
machine**



CAUTION

MAKE SURE TO PULL SUPPLY PLUG OFF SUPPLY SOCKET WHEN YOU CHANGE NEEDLE OR BOBBIN OR BULB IN ORDER TO AVOID ELECTRIC HAZARDS AS WELL AS WHEN YOU FINISHED MACHINE OPERATION.

IMPORTANT MESSAGE RELATED TO STRETCH FABRIC SEWING

The "GOLDEN STRETCH STITCH NEEDLE" "

Since the popularity of stretch fabrics continues to grow, this company has developed a special "GOLDEN STRETCH STITCH NEEDLE" and has provided you with a supply in your accessory box. This innovation means that you can sew on any type of stretch fabric with the same needle, no change necessary regardless of which stretch fabric you select.

With the "GOLDEN STRETCH STITCH NEEDLE" you will never skip stitches and used with this precision built sewing machine your sewing will always be neat and professional on the most advanced fabric of today.

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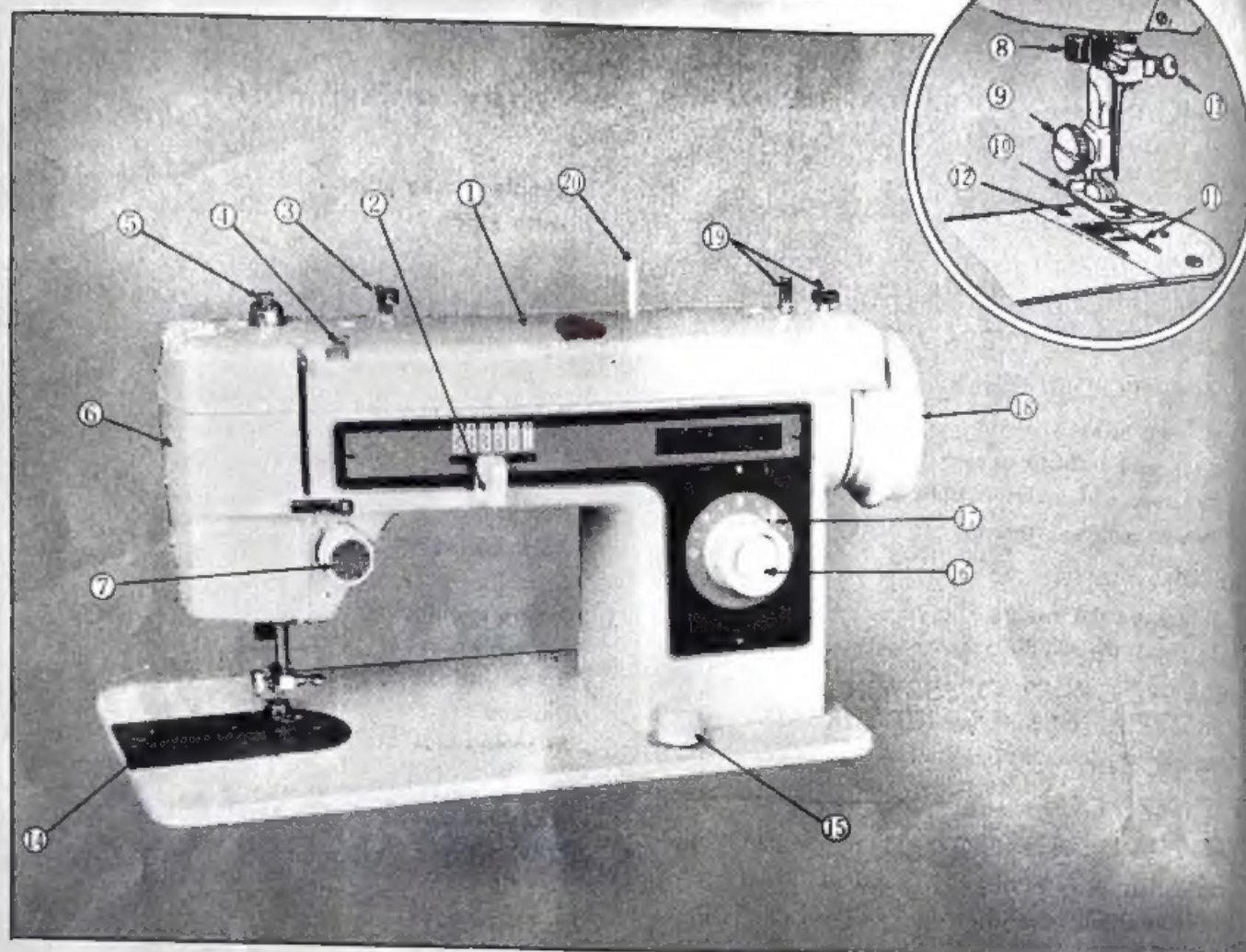
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Principal Parts



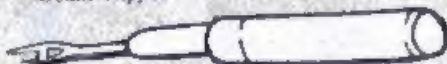
- | | |
|--|---|
| 1. Top Cover | 11. Feed Dog (See page 10) |
| 2. Zigzag Width Lever
To make the zigzag sewing, turn this lever according to the numerals above the lever which represent the width of zigzag stitch. (See page 9) | 12. Needle Plate |
| 3. Upper Thread Guide and Bobbin Winder Tension Disc | 13. Needle Clamp Screw |
| 4. Front Thread Guide | 14. Slide plate |
| 5. Pressure Adjuster (See page 10) | 15. Drop Feed Knob (See page 10) |
| 6. Face Plate | 16. Reverse Sewing Button (See page 9) |
| 7. Thread Tension Dial (See page 11) | 17. Stitch Length Dial
By turning this dial, you can control the length of the stitch.
The higher the number, the longer the stitch. (See page 9) |
| 8. Thread Cutter | 18. Balance Wheel |
| 9. Presser Foot Screw | 19. Bobbin Winder Device |
| 10. Presser Foot (Zigzag) (See page 9) | 20. Spool Pin |

Accessories

Sinale Needle
No. 14 (3 pcs.)



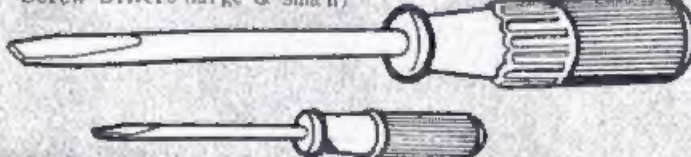
Seam Ripper



Oiler



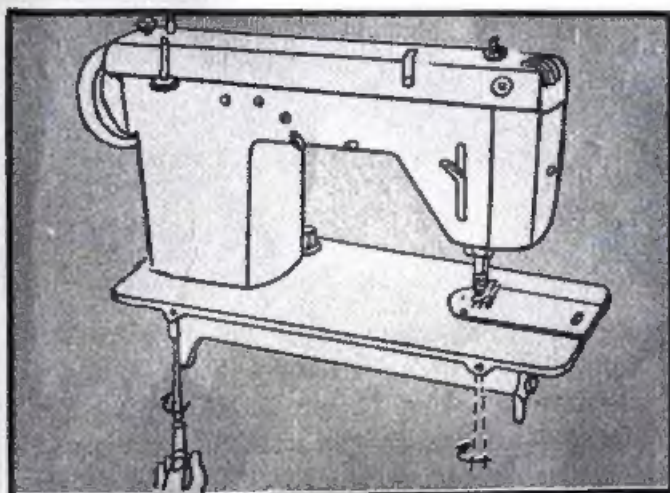
Screw Drivers (large & small)



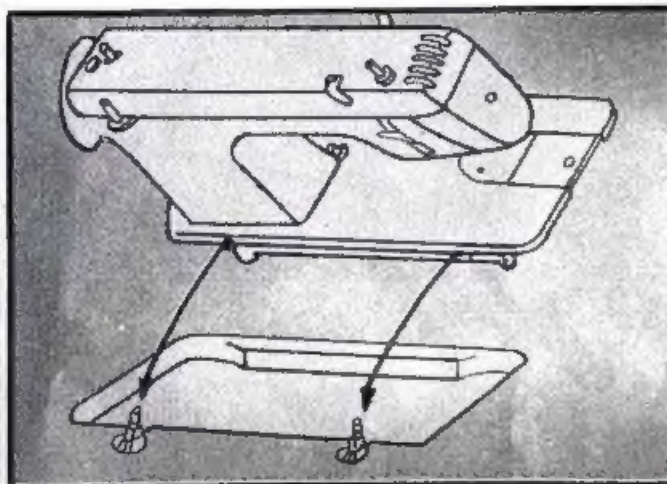
Bobbin (3 pcs.)



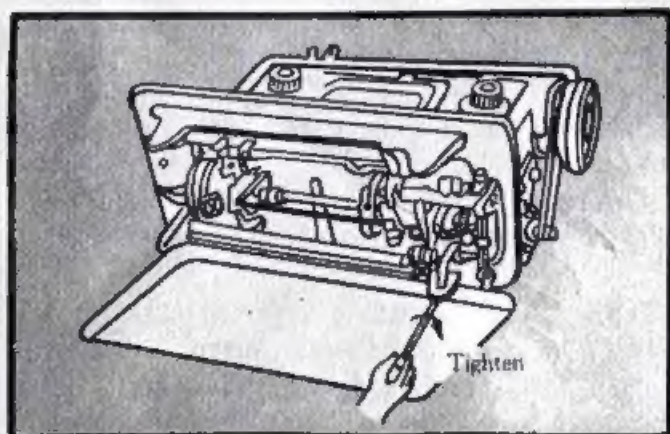
Installing Machine Head



1. Loosen two set screws to permit hinge pins located in the back of the cabinet or base of portable case to enter.



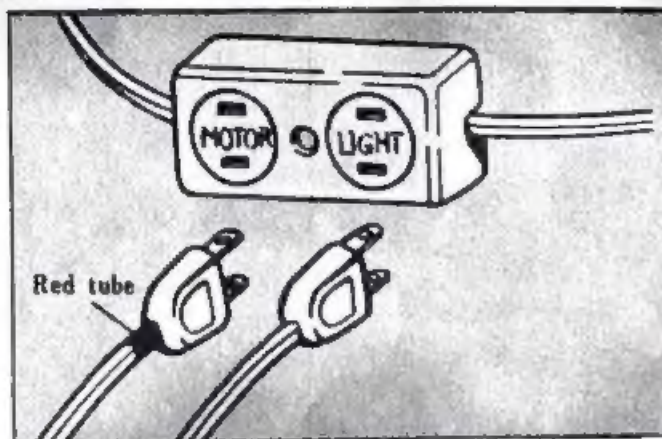
2. Insert hinge pins into openings at the back of sewing machine bed.



3. Tighten set screws securely.

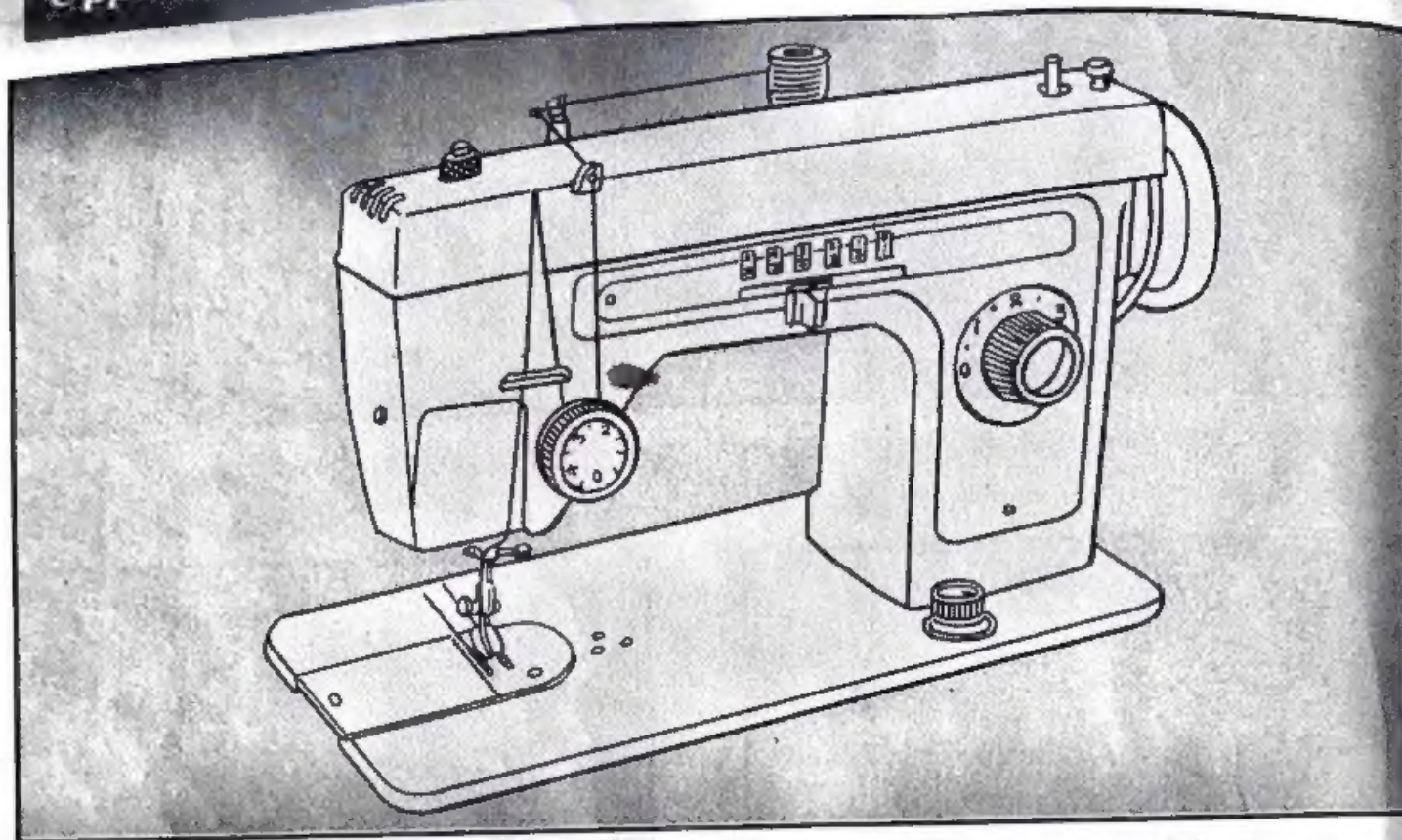
WARNING

Never use machine unless it is in case or cabinet as bottom of machine is open.

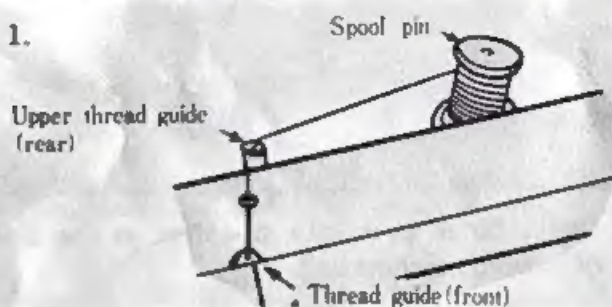


4. Connect two-pin plugs leading from the motor with red tube and the sew-light to the electrical outlets marked "MOTOR" and "LIGHT" respectively. Then plug the cord leading from the cabinet or base of portable case into wall outlet. (U. S. A. Spec.)

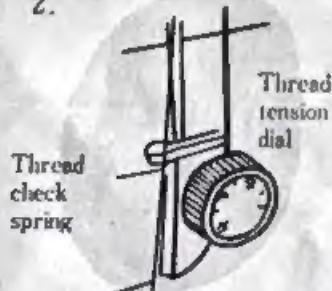
Upper(Needle) Thread



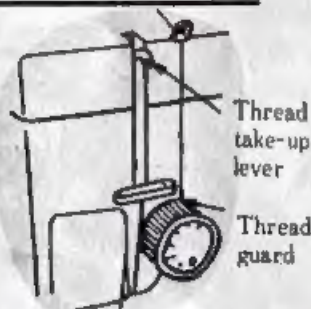
1.



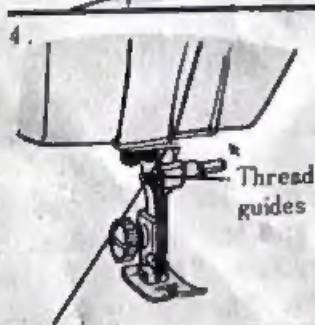
2.



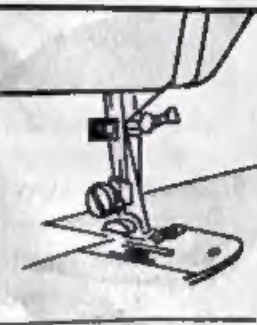
3.



4.



5.



Before threading, make sure to raise presser foot and take-up lever to the highest position. Then place spool of thread on the spool pin.

1. Pass thread through the upper thread guide, (rear) and thread guide (front).

2. Now bring thread down and up through thread tension dial from right to left so that thread picks up the thread check spring.

3. Pass thread into the eyelet of the thread take-up lever from right to left. And bring down again and pass through the thread guard.

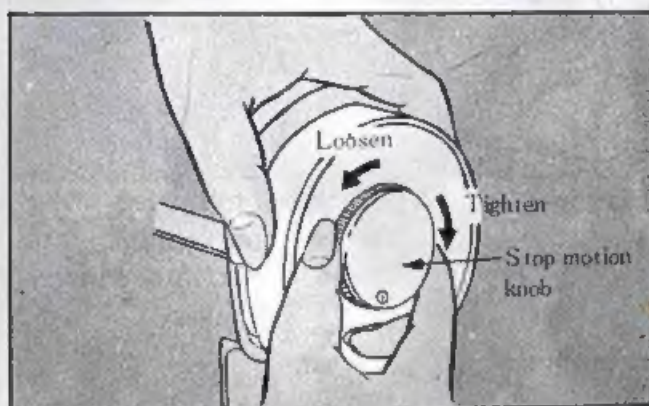
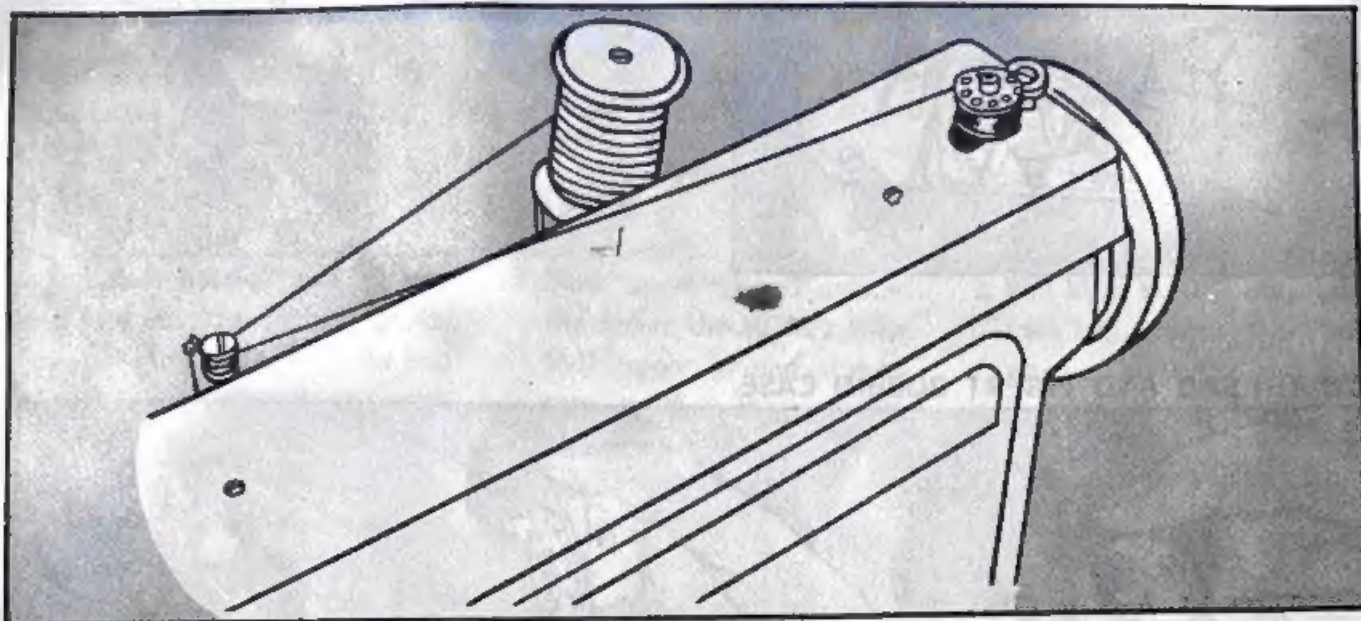
4. Bring down and pass through the thread guides.

5. Thread needle from left to right and draw the thread out about 10cm (4 inches)

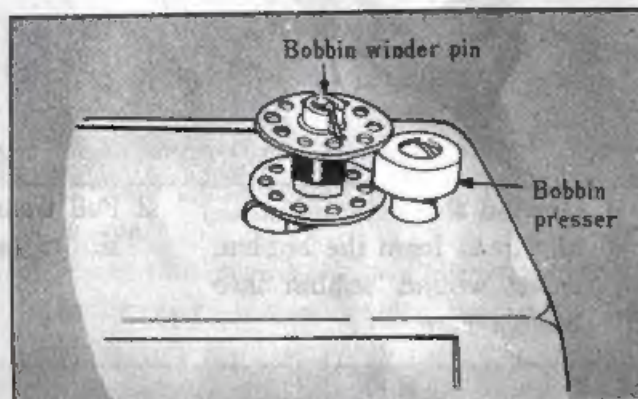
NOTE: If the threading order is not correct, thread breakage, stitch skipping, wrinkling of fabric will occur.

Lower (Bobbin) Thread

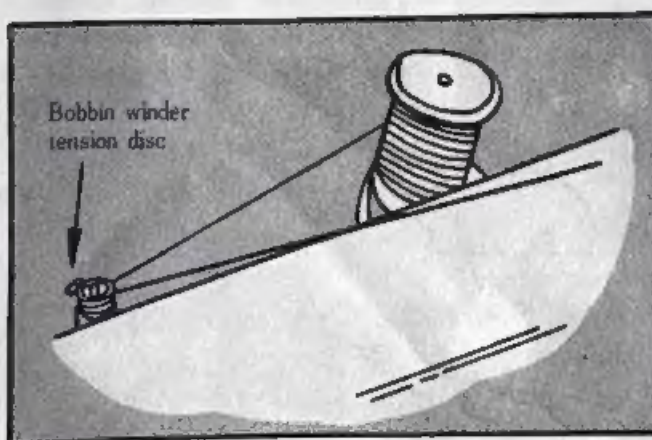
TO WIND BOBBIN



1. Loosen stop motion knob by turning it toward you.



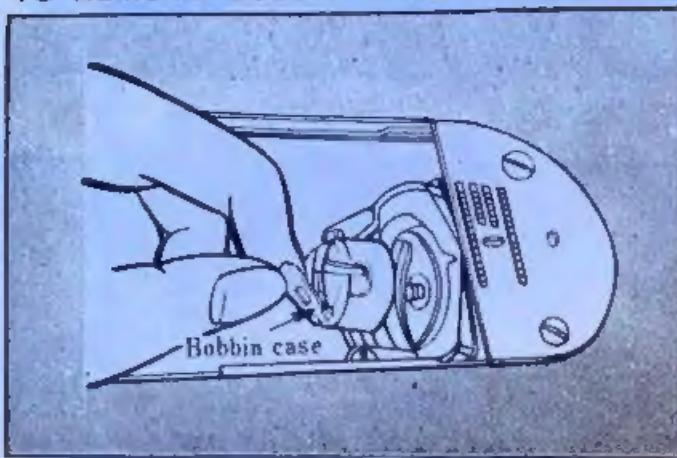
2. Place an empty bobbin on the bobbin winder pin.



3. Place thread spool on the spool pin and take thread through bobbin winder tension disc.

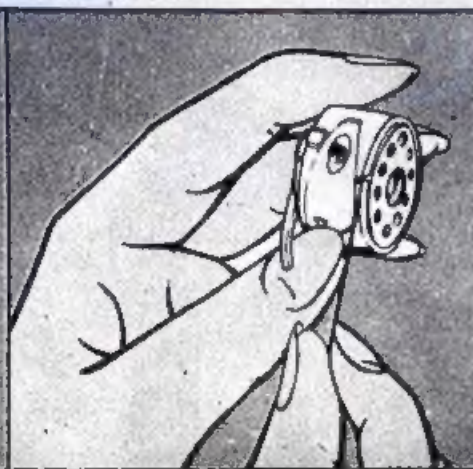
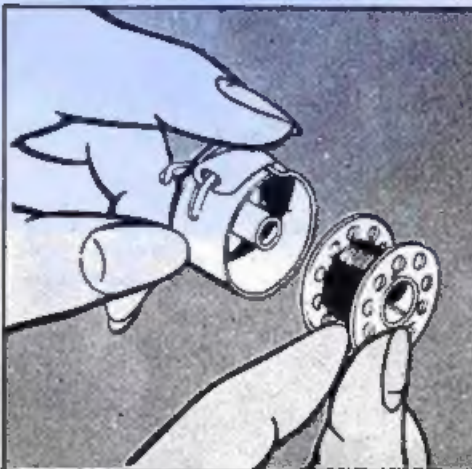
4. Wind the thread a few times around the bobbin clockwise and push the bobbin toward bobbin presser. Start the machine gently.
5. When bobbin thread is full, it stops the winding.
6. Push the bobbin to the left and remove it. Tighten stop motion knob securely.

TO REMOVE BOBBIN CASE

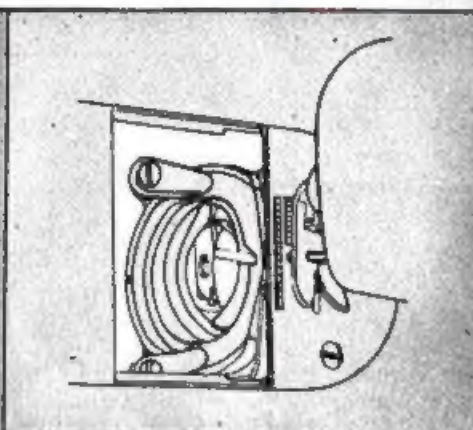
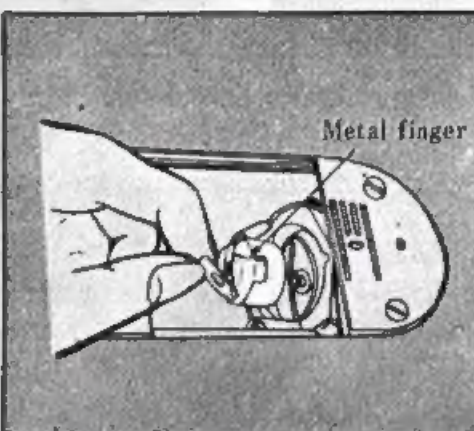


1. Raise needle to its highest position.
2. Pull slide plate to the left.
3. Pull and open the latch of bobbin case.
4. Pull out bobbin case from the shuttle.

TO THREAD AND INSERT BOBBIN CASE



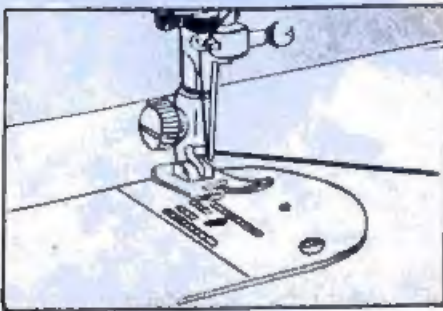
1. Unwind about 10cm (4 inches) of thread from the bobbin. Insert wound bobbin into bobbin case.
- 2 Pull trailing thread into the slot of case.
3. Pull thread to the left under the tension spring until thread enters into delivery eye.



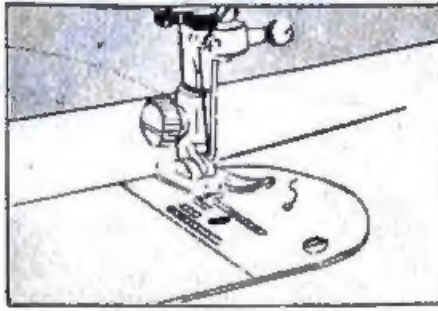
4. Holding bobbin case latch with the metal finger of case pointing up, fit it into the notch at the top of the shuttle race.
5. Release latch and push case to the right making sure the case is in the proper position. Close slide plate.

NOTE: The thread drawn out of the case is to be left hanging below the race. Leave about 10cm (4 inches) hanging.

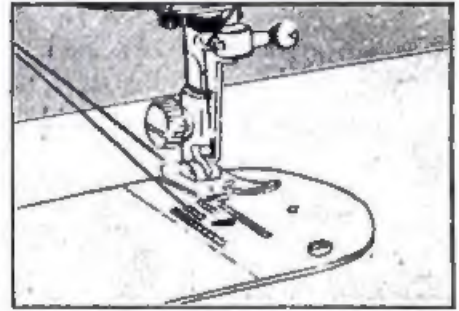
TO PULL UP LOWER THREAD



1. Raise needle and presser foot to the highest point. With left hand, hold the end of upper thread and with right hand, turn balance wheel toward you until the needle moves down and up again to its highest position.



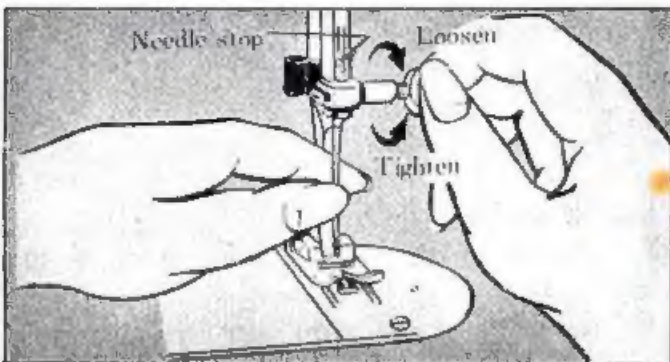
2. Now upper thread catches the lower thread in a loop. Pull upper thread toward you so that lower thread will come up in a large loop from the presser foot.



3. Pull both threads under the toes of presser foot and place them to the rear leaving about 10cm(4inches).

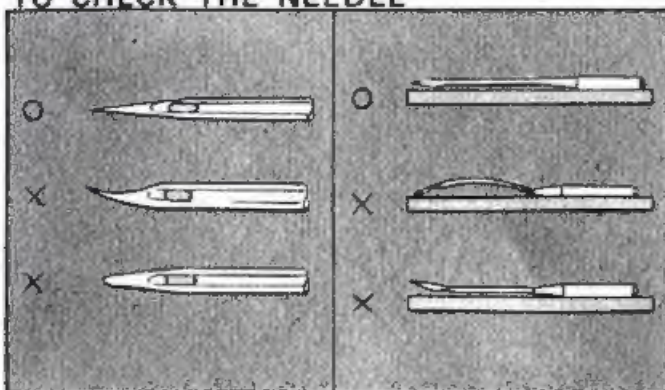
Needle

TO CHANGE THE NEEDLE



1. Raise needle to its highest position.
2. Loosen needle clamp screw and remove old needle.
3. Insert new needle up into needle clamp hole as far as it will go against the needle stop. Make sure the flat side of needle faces toward the right side and the long groove toward left.
4. Tighten needle clamp screw securely.

TO CHECK THE NEEDLE



The sewing needle must be always straight and sharp to have smooth sewing.

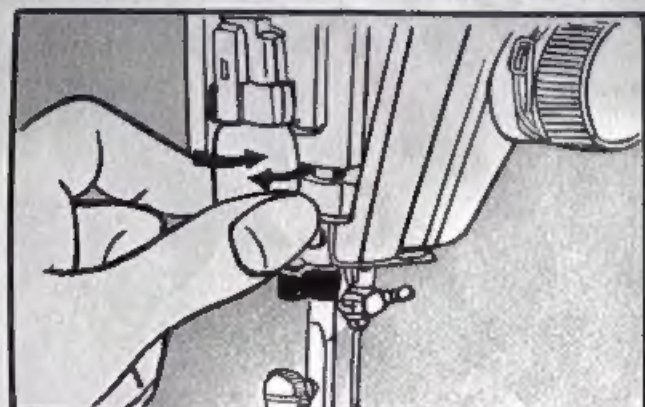
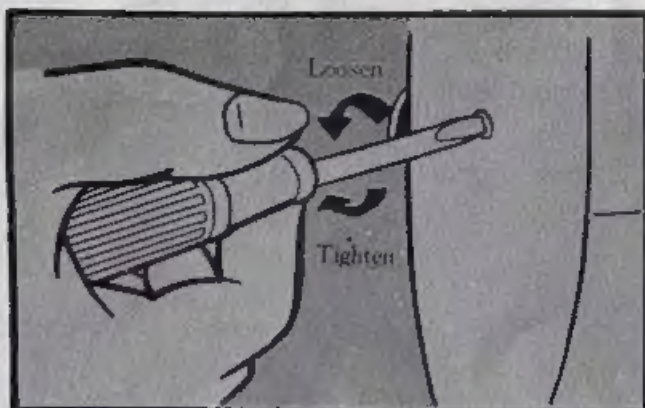
To check if the needle is bent, the flat side of the needle down on a slide plate as shown in figure.

Relative Chart of Sewing Material, Needle and Thread

SEWING MATERIAL		NEEDLE SIZES	THREAD SIZES
VERY THIN	Fine tricot, Fine lace, Thin linen, Silk, Tulle, Chiffon	9	Cotton 80-120 Synthetic Fine Mercerized Cotton
LIGHTWEIGHT	Organdy, Jersey, Voile, Taffeta, Synthetics, Silk Batiste	11	Cotton: 60-80 Silk: "A" Synthetic Mercerized 50
MEDIUM	Cotton, Gingham, Poplin, Percale, Pique, Satin, Velvet, Lightweight wool, Fine corduroy, Suitings	14	Cotton: 50-60 Silk: "A" Synthetic Mercerized 50-60
HEAVY	Denim, Gabardine, Tweed, Corduroy	16	Cotton: 40-50 Mercerized Heavy Duty
VERY HEAVY	Canvas, Overcoatings, Upholstery	18	Cotton: 30-40 Mercerized Heavy Duty

- NOTE:
1. Thread should be always thinner than the needle eye.
 2. Use the same size and type for both lower and upper threads.
 3. Needle must be sharp to pierce into and out of the materials.

Sew-Light



To change the bulb;

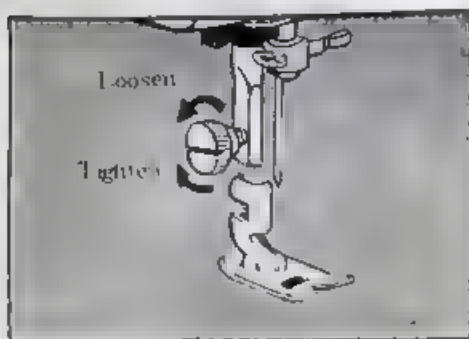
You will find a large screw driver in the accessory box.

1. Loosen the screw on the face plate and remove it.
2. Remove bulb by turning counter-clockwise.
3. After replacement, attach the face plate.

NOTE: 1. Make sure to switch off the light when you replace the bulb.

2. Maximum input of lamp
12w.....110/115v Area
15w.....220/240v Area

Presser Foot



To remove the presser foot;

1. Raise needle to its highest position.
2. Raise presser foot.
3. Loosen presser foot thumb screw and remove presser foot.
4. To attach the presser foot, place grooved side of the foot against the flat of the presser bar.
5. Push foot up and tighten thumb screw.

STITCH LENGTH

The stitch length is regulated by turning the stitch length dial.

Numerals on the dial represent the stitch length. THE HIGHER THE NUMBER, THE LONGER THE STITCH.

To increase the stitch length, turn stitch length dial clockwise to larger number on the dial.

To decrease the stitch length, turn dial counter-clockwise to smaller number on the dial.

NOTE: The '0' on the dial means that the material is not fed.

REVERES STITCH

To sew reverse, push reverse sewing button as far as it will go and keep it in this position until you wish to sew forward.

When you release your finger from the button, it springs back for forward sewing.

Reverse sewing is used for back tacking and reinforcement of the seam.

ZIGZAG WIDTH

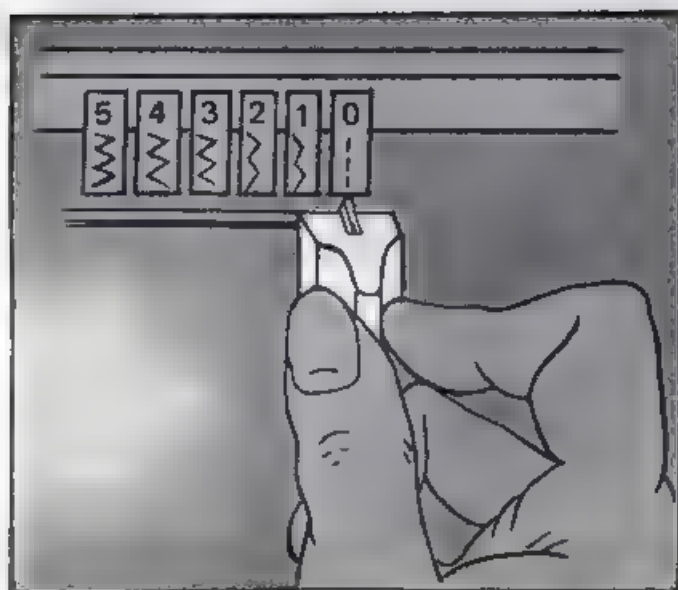
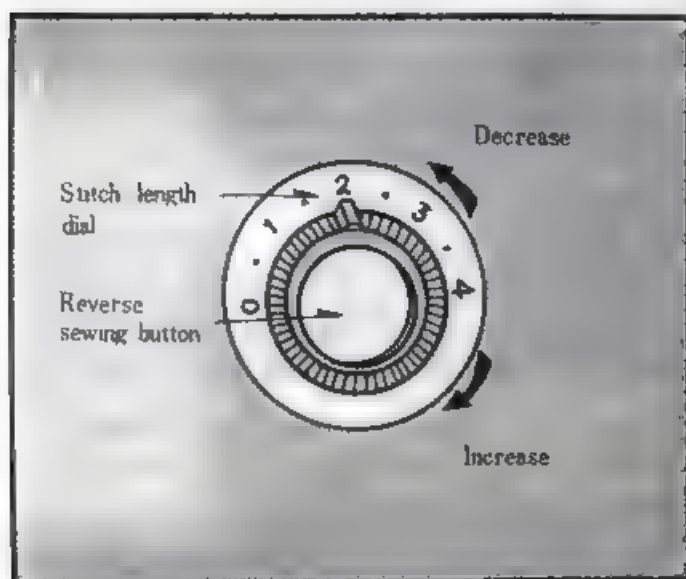
The zigzag width is regulated by operating the zigzag width lever.

Numerals above the lever represent the width of stitch.

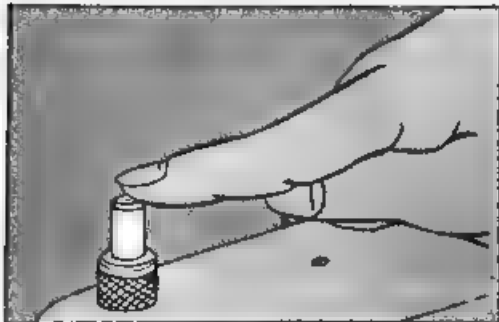
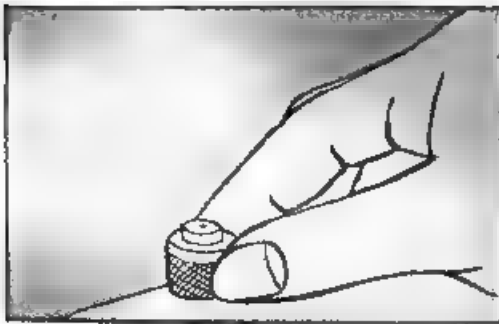
THE HIGHER THE NUMBER, THE WIDER THE STITCH.

The '0' means no width of zigzag, in other words, straight stitch.

NOTE: 1. Do not move the lever while the needle is in the material.



PRESSURE ADJUSTER

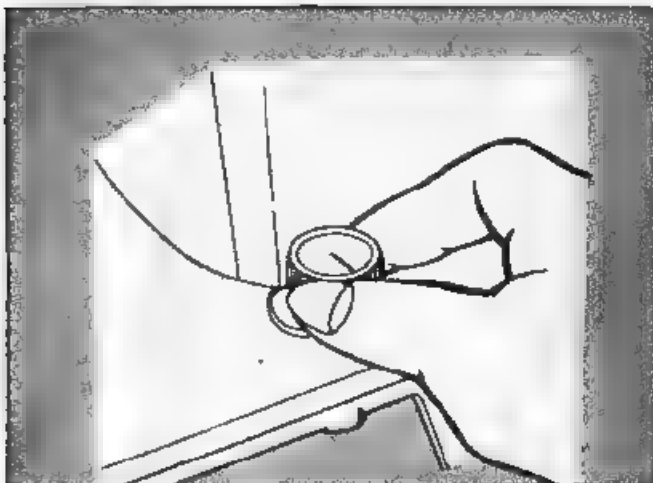


Correct pressure on presser foot is important to obtain the smooth sewing. Pressure on presser foot requires to be regulated according to the type and thickness of the materials to be sewn.

1. To regulate the pressure, lower presser foot.
2. Push outer ring of pressure adjuster down, and inner pin will spring up to its highest position. In this position, pressure is completely released from the presser foot.
3. To increase pressure, push inner pin down with your finger.










NOTE: You will be able to select a correct combination by referring to under table.
Concerning Feed Dog, see the next page.

FEED DOG



As well as the pressure adjuster, control for feed dog is necessary for correct sewing.

1. "DARN" is used only for special sewing, such as Darning, Embroidering, etc. It means that the feed dog is completely dropped and no feeding.
2. "NORM" is used for normal and general sewing. The height of feed dog is middle.
3. "THICK" is used for thick and heavier materials sewing. The height of feed dog is the highest position and feed dog catches even thick or heavier materials

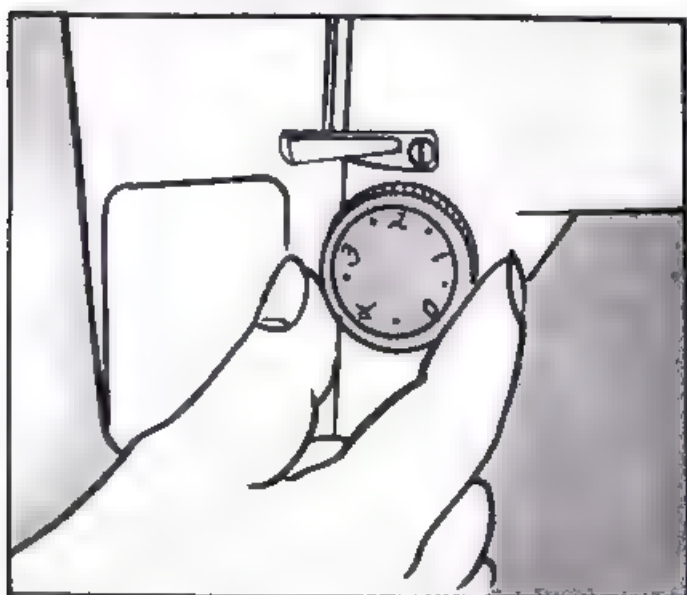
Drop Feed Knob	Height of Feed dog	Pressure Adjuster	
 DARN	 DOWN	 UP	Darning Embroidering Monogramming
 NORM	 MIDDLE	 MIDDLE	Mending Normal use and lighter material such as silk and nylon
 THICK	 UP	 DOWN	Thick and heavier materials

THREAD TENSIONS

Correct tensions on both upper and lower threads are very important and should be equal so that both threads are drawn into the center of the work without loops on the top or bottom of the work.

Make a few samples and examine whether your sample stitches are perfect before actual sewing starts.

UPPER THREAD TENSION



To regulate upper thread tension, merely turn thread tension dial with your thumb after lowering the presser foot.

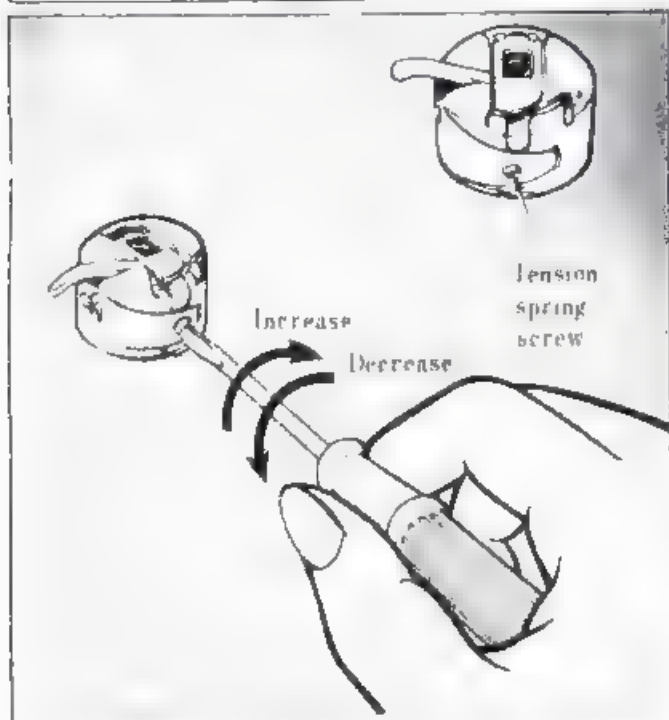
THE HIGHER THE NUMBER, THE TIGHTER THE TENSION.

To increase tension: Turn dial to right to larger number.

To decrease tension: Turn dial to left to smaller number

NOTE: When sewing the zigzag stitch, it requires less upper tension than straight stitch.

LOWER THREAD TENSION



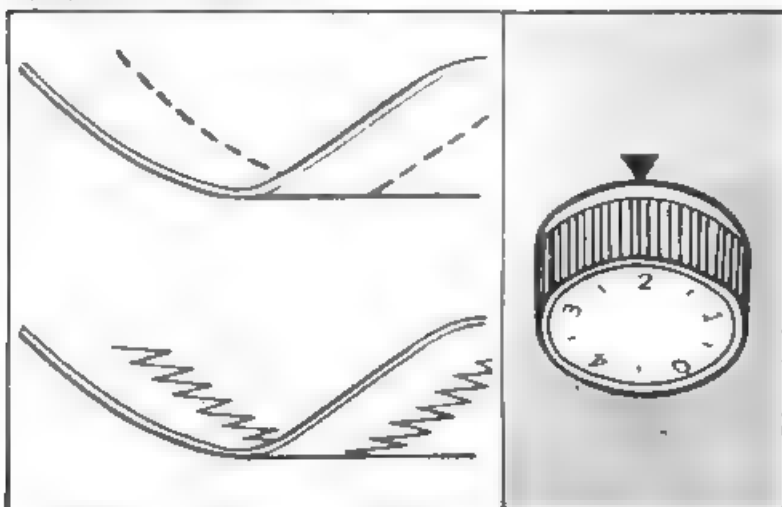
Lower thread tension has been already adjusted for general use at the factory before shipment but when sewing extremely thin or heavy material, it requires to adjust the lower thread tension also.

To regulate the lower thread tension, turn small screw on the tension spring of the bobbin case with the small screw driver.

To increase tension: Turn the small screw clockwise very slightly.

To decrease tension: Turn the screw counter-clockwise very slightly.

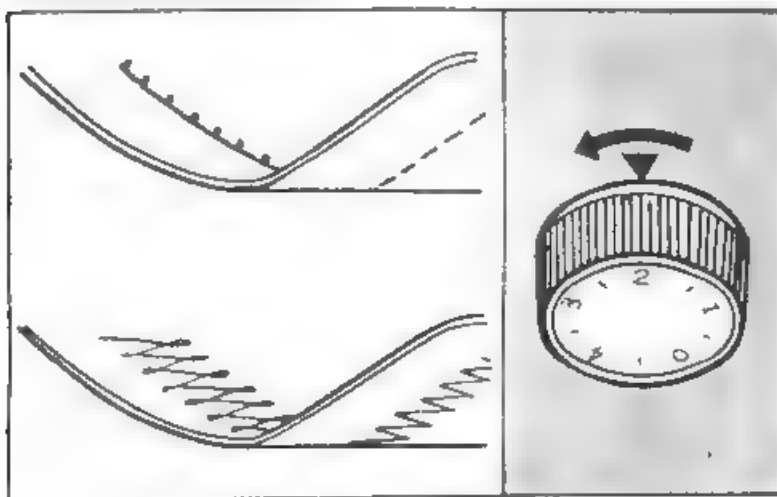
PERFECT STITCHING



The tension of the upper and lower threads should be equal and just sufficiently strong to lock both threads in the center of the work.

Perfect stitch shows flat and no puckering result on the material.

INCORRECT STITCH (A)



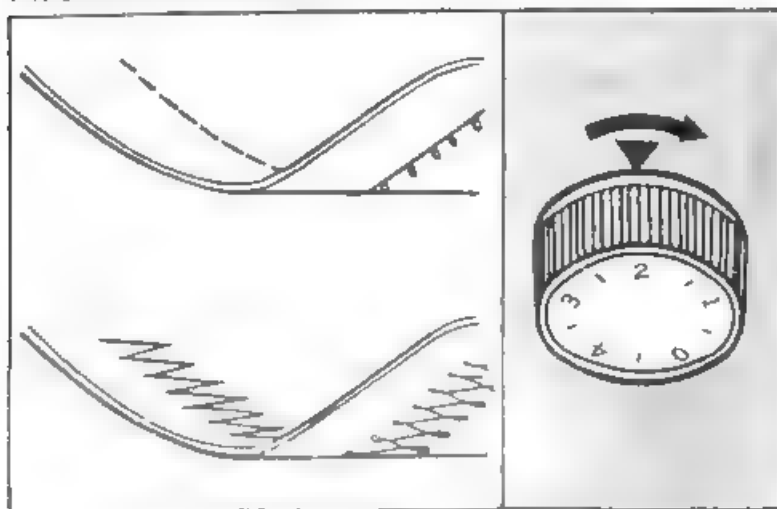
The upper thread lies on the surface of the material by pulling the lower thread up as shown.

This is caused by tight tension on the upper thread or loose tension on the lower thread.

To correct this, turn the upper thread tension dial to a lower number.

When perfect stitch cannot be obtained by only upper thread tension dial, adjust the bobbin tension accordingly.

INCORRECT STITCH (B)



The lower thread lies on the under surface of the material by pulling upper thread down as shown.

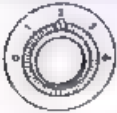
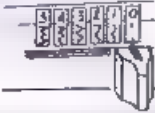



This is caused by loose tension on the upper thread or tight tension on the lower thread.

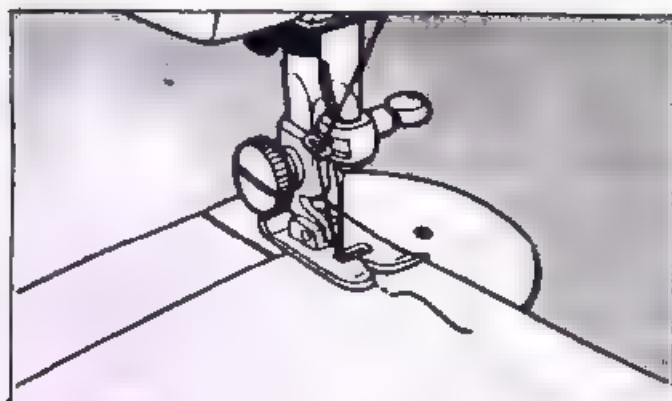
To correct this, turn the upper thread tension dial to a higher number.

When perfect stitch cannot be obtained by only upper thread tension dial, adjust bobbin tension accordingly.

NOTE: We recommend you to make test samples before actual sewing work.

Straight Stitching

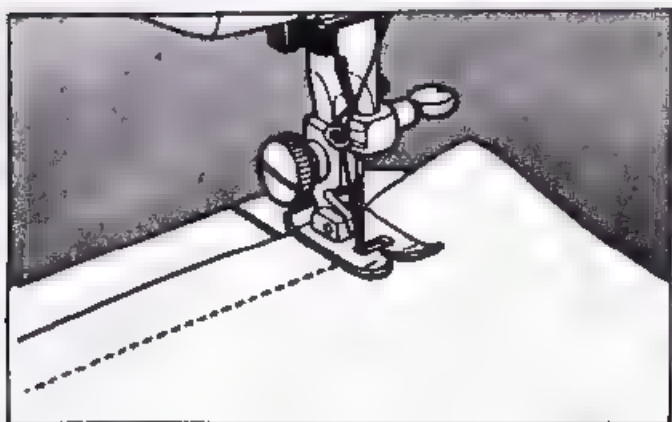
Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
1-4	0	Zigzag	Norm	According to the material



TO START SEWING

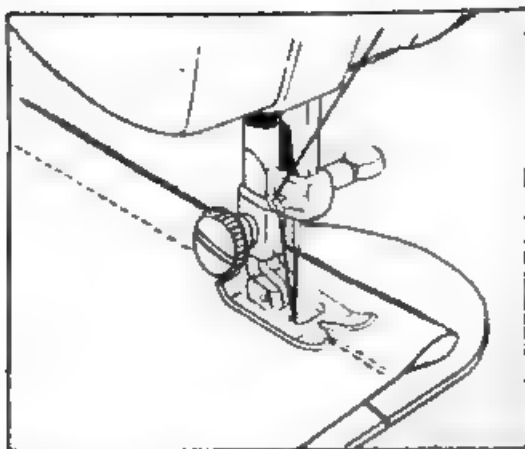
1. Raise needle to its highest position and lift presser foot.
2. Place material under the presser foot to position the needle about 10mm (half inch) from the starting point.
3. Lower presser foot.
4. Start reverse sewing by pushing the reverse sewing button to the starting point for reinforcement.
5. Release the button and make forward stitching.

NOTE: Do not pull the material. Let the machine do the work. Merely guide the material with your fingers. If you pull the material, your needle might either bend or break.



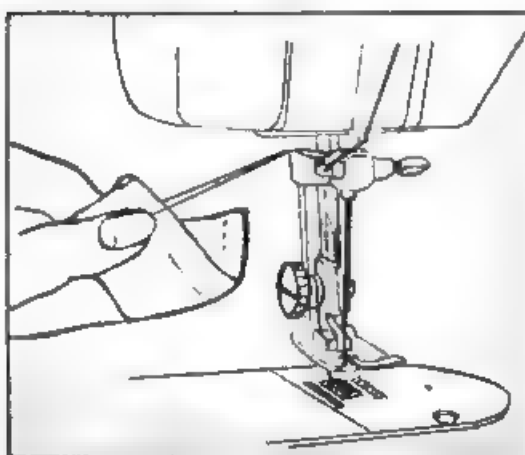
TO CHANGE THE SEWING DIRECTION

1. Stop machine at the turning point while the needle is in the material.
2. Raise the presser foot and turn the material to the new direction while the needle acts as the axis.
3. Lower the presser foot and start sewing to the new direction.



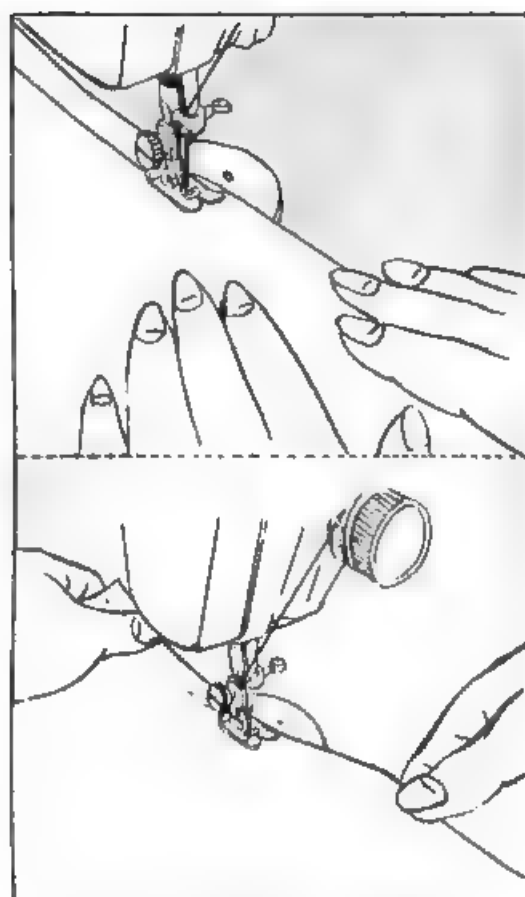
TO FASTEN THE FINAL SEWING

1. Continue to stitch to the edge of the work and stop the machine.
2. Push the reverse sewing button and make backward stitches about 10mm(half inch) from the end of the stitch.



TO REMOVE THE WORK

1. Stop the machine.
2. Raise needle to its highest position and make sure that the thread take-up lever is in the highest position also.
3. Lift presser foot and pull out the material gently to the left side diagonally.
4. Cut both threads on the thread cutter.
5. Leave 10cm(4inches) of threads between toes of the presser foot to the rear while the thread take-up lever is at the highest position, and you are ready to sew again without any chance of thread running out of needle.








TO GUIDE AND SUPPORT THE MATERIAL

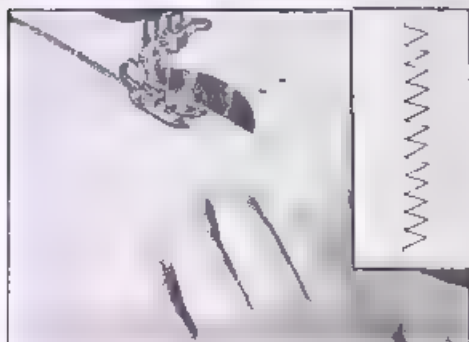
Generally it is enough to guide the material in front of the presser foot as shown in the upper figure.

However, in case of special materials such as tricot, crepes, knits, etc., we recommend you to support the material both in front and back of the presser foot with gentle tension as shown in the lower figure.

Zigzag Stitching

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
1-4	1-5	Zigzag	Norm	According to the material

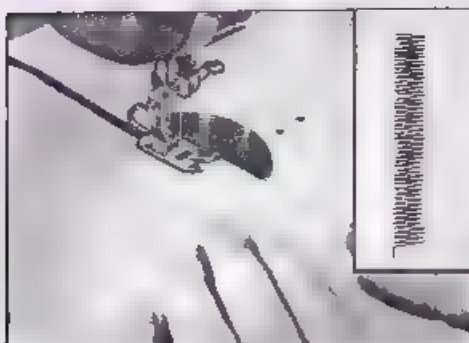


SIMPLE ZIGZAG STITCH

When you set the stitch length dial to 1-4, you can obtain "SIMPLE ZIGZAG STITCH"

- 1 Before stitching zigzag, sew about 5-6 straight stitches with stitch length between 0-1 for reinforcement
- 2 Set zigzag width lever to your desired width and commence to sew
- 3 At final sewing, reset the zigzag width lever to "0" and sew about 5-6 straight stitches with stitch length between 0-1 for reinforcement

NOTE: Generally, zigzag stitch requires less upper thread tension than the straight stitches.



SATIN STITCH

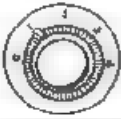




When the stitch length dial is set to between 0-1, the machine produces the zigzag stitch called "SATIN STITCH" which is used for making the buttonhole and various decorative stitches.

NOTE: Position of the stitch length dial to get the SATIN STITCH is varied depending upon the size of threads and the material being used, so we suggest you to make a test sample first and determine the best position between 0-1.

4 Making Various Stitches




DECORATIVE STITCHES

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
Satin Stitch	See below table	Zigzag	Norm	According to the material








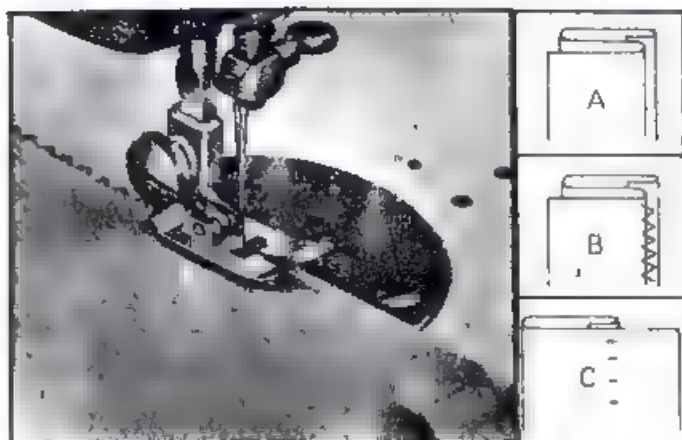
Using the "Satin Stitch", you can obtain various decorative stitches by simple operation of zigzag width lever as following instruction for each stitch.

Patterns to be sewn	How to move lever
	At even speed from 0 to 5 and from 5 to 0. Repeat this.
	Control the speed in moving from 0 to 5 and from 5 to 0. This will produce uniform curves. Repeat this.
	Slowly from 0 to 5 and quickly back to 0. Repeat the movement.

BLIND STITCH

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
2-3	3-5	Zigzag	Norm	According to the material








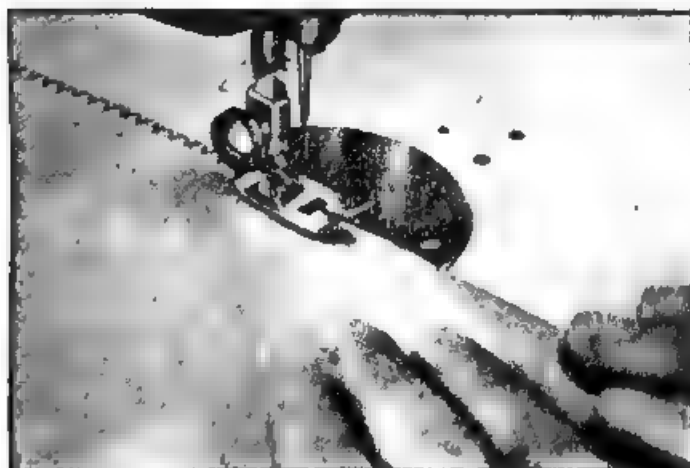
1. Fold the material into the size of the hem desired and fold back as shown in Fig. A with 6mm ($\frac{1}{4}$ inch) overlapping on the bottom fold of the edge.
2. Start to sew on the fold, making the needle slightly to touch the folded top. (Fig. B)
3. After finish, unfold the material, and you will have a blind stitch hem. (Fig. C)

NOTE: Use the same color threads as the material.

OVERLOCK

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
3-4	5	Zigzag	Norm	According to the material







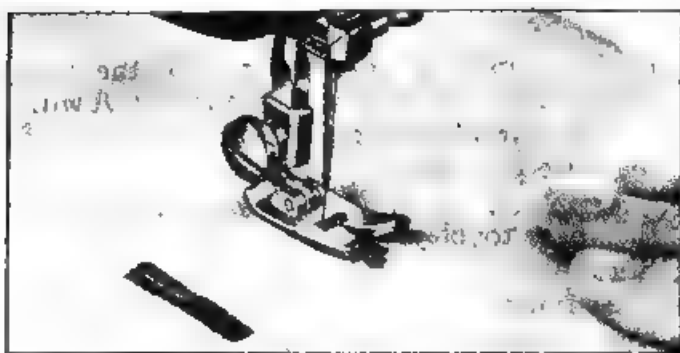
The overlock stitch is used to avoid the fraying the edge of material.

1. Place edge of the material under presser foot so that the needle sews material with its left side of zigzag stitch and just misses the edge of material with its right side of zigzag.

BUTTONHOLE

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

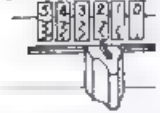

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
Satin satch	See below instruction	Zigzag	See below instruction	According to the material



- Commence to sew 5 to 6 stitches and stop the machine when the needle is in the material at the left side of the row.

Step C:

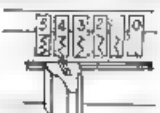



Zigzag Width	Drop Feed
	
2	Norm

- Lift the presser foot slightly and set the feed dog knob to NORM.
- Raise the needle and set the zigzag width lever to 2.
- Commence to sew another side row until needle reaches another end of bar tack which you have determined
- Stop the machine when the needle is in the material at the left side of row.

Step D:



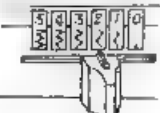

Zigzag Width	Drop Feed
	
4~5	Darn

- Raise the needle and set the feed dog knob to DARN.
- Set the zigzag width lever to 4~5.
- Commence to sew 5 to 6 stitches, and for fastening the seam, turn material 90° clockwise and sew 5 to 6 stitches with straight stitch.
- Lift the presser foot and remove the work.
- Cut opening for button with seam ripper taking care not to cut stitches.

NOTE. 1. We suggest you to make a test sample of buttonhole before actual sewing
2. Using tailor's chalk, mark on the material.

Step A:





Zigzag Width	Drop Feed
	
2	Norm

- Set zigzag width lever to 2.
- Set drop feed knob to NORM.
- Lower presser foot and commence to sew predetermined length.
- Stop the machine when the needle is in the material at the right side of row.

Step B:


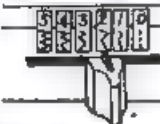





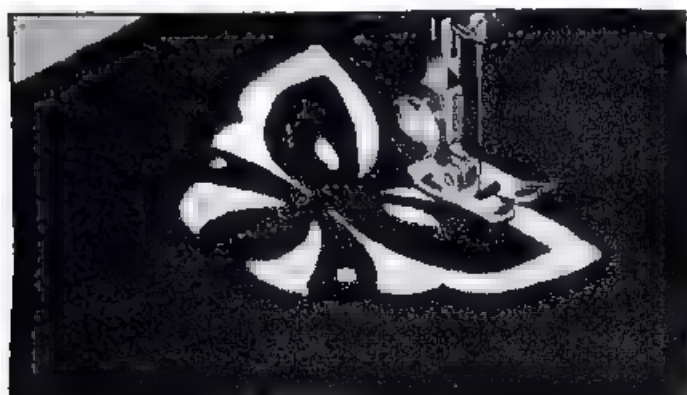
Zigzag Width	Drop Feed
	
4~5	Darn

- Lift the presser foot and turn material 180° while the needle acts as the axis.
- Lower the presser foot and raise the needle from material by turning balance wheel toward you.
- Set zigzag width lever to 4-5 and drop feed knob to DARN.

APPLIQUEING

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.


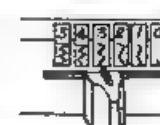



Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
1/2-1	1-3	Zigzag	Norm	According to the material

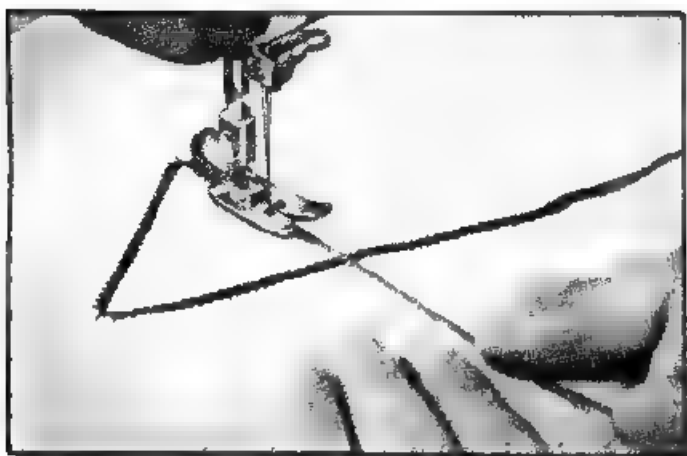


1. Baste cut design to the material.
2. Following the design, commence to sew carefully.
3. Cut away the surplus material close to the design.
4. Remove basting.

CORDING

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

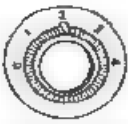
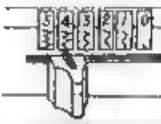



Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
1/2-1	1-3	Zigzag	Norm	According to the material



1. Set zigzag width lever according to the width of the zigzag required and the thickness of the cord being used.
2. Place the cord on the fabric so that the cord will be placed just in the center of the presser foot.
3. Lower presser foot and commence to sew zigzag stitch over the cord, by guiding the cord to your work.

MONOGRAMMING USING EMBROIDERING HOOP

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
	0-5		Darn	Up



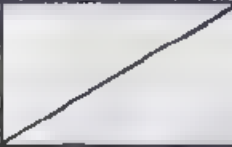





1. Remove presser foot.
2. Draw lettering on the right side of the material.
3. Stretch work between embroidering hoops as firmly as possible.
4. Place the work under the needle and lower presser bar.
5. Pull lower thread up through the work at starting position by turning balance wheel and hold both threads.
6. Hold the hoop with thumb and forefinger of both hands while pressing the material with middle and third fingers and supporting the outside of hoop with smaller finger.
7. Start sewing, moving hoop lightly along the lettering with even rate of speed while controlling zigzag width lever with your right hand.



EMBROIDERING, USING EMBROIDERING HOOP

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

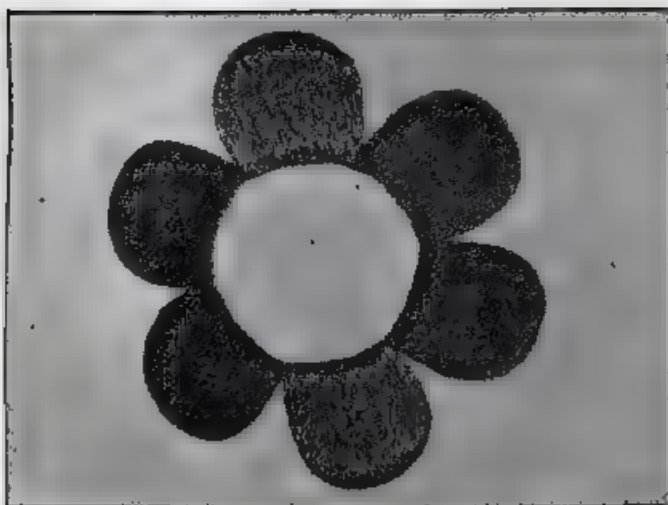
Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
			Darn	Up



1. Remove presser foot.
2. Draw design on the material.
3. Place cloth on the embroidering hoop in the same manner as monogramming.
4. Position the hoop under the needle and lower presser bar.
5. Pull lower thread up through the work.



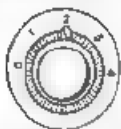
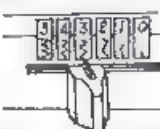



6. At fixed width, move embroidering hoop according to the outline of the design.
7. After the stitching of outline, sew from outside to inside and from inside to outside alternately until the area is stitched closely without leaving any space.

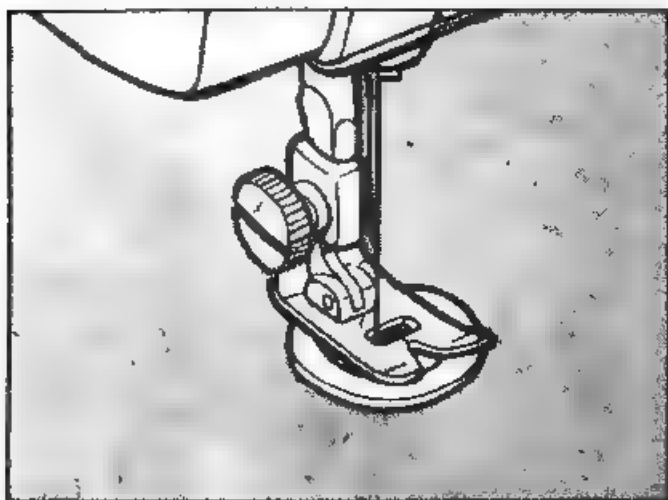


NOTE: To make a long stitch, move the hoop rapidly and to make a short stitch, move it slowly.

BUTTON FITTING

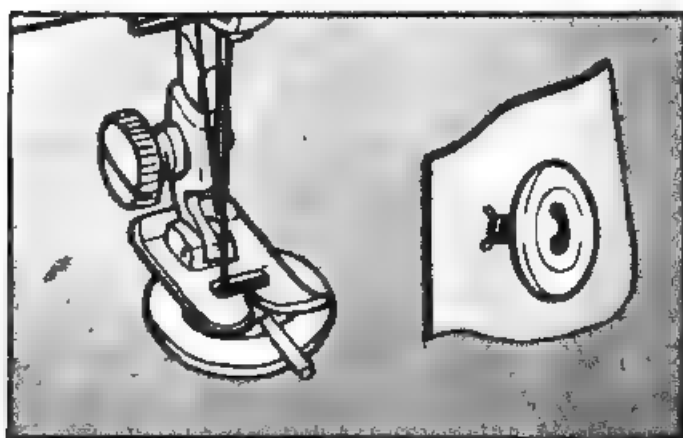
SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
	Depending on the distance of holes	Zigzag	Darn	Up



1. Place button between the presser foot and the material.
2. Control zigzag width to suit to the distance of the holes of button.
3. Lower the presser foot and examine that the needle enters into both holes of button without any obstruction.
4. Slowly sew about 10 stitches.
5. Stop machine and raise needle from the material.
6. Turn zigzag width lever to 0.
7. Sew about three stitches to fasten the stitch.
8. Remove your work and cut excess threads.

BUTTON FITTING WITH THREAD SHANK


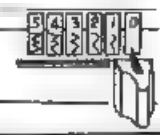





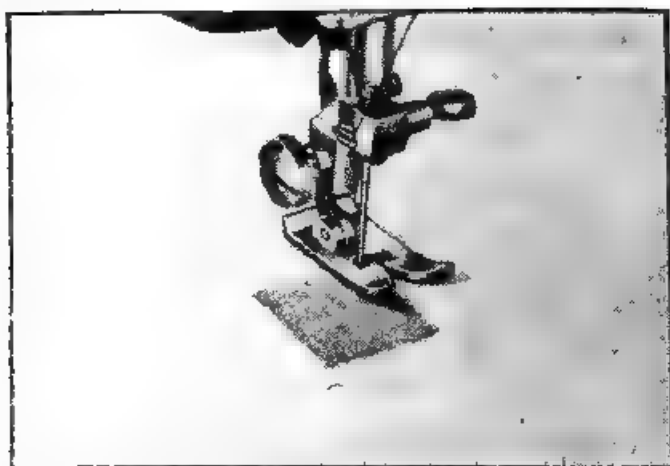
You will often need the thread shank of button for heavier materials.

1. Place a needle on the button as illustrated and sew as regular method of button fitting.
2. After about 10 stitches, remove the fabric from the machine, leaving upper thread little longer in order to form a thread shank.
3. Pull upper thread between the button and the material through the hole of button and wind upper thread tightly around the stitches.
4. Fasten the thread ends.

DARNING

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE

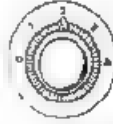
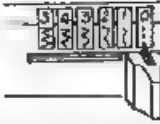



Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
	0	Zigzag	Darn	Up

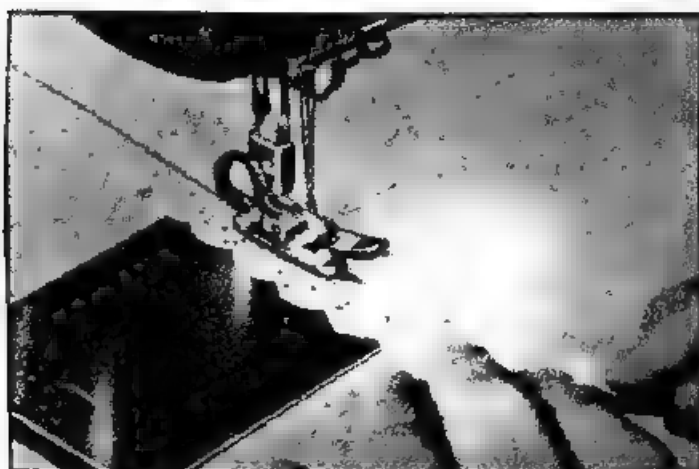


1. Place portion to be darned under the presser foot.
2. Lower presser foot.
3. Sew alternately drawing the work gently away from you and pulling it toward you.
4. Repeat this motion until the portion to be darned is filled with parallel lines of stitching.

ATTACHING LACE

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
2-4	0	Zigzag	Norm	According to the material

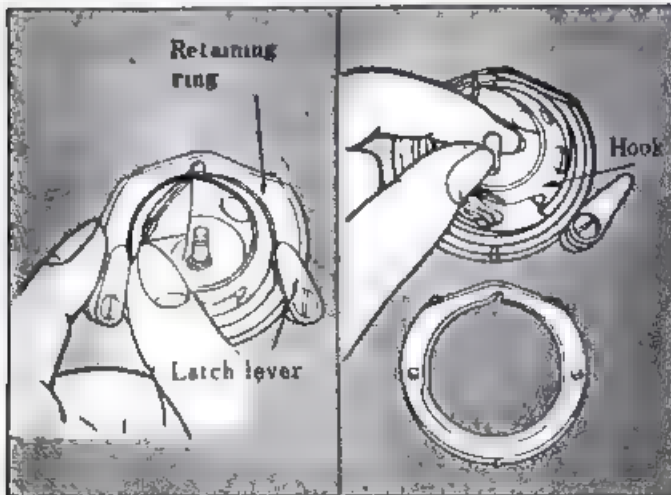


1. Place lace on or under the material and let it overlap the edge of the material by 6mm (1/4 inch)
2. Place works under the presser foot and commence to sew.

Cleaning

The sliding parts of the shuttle race body and the hook must be cleaned regularly so that lint does not accumulate.

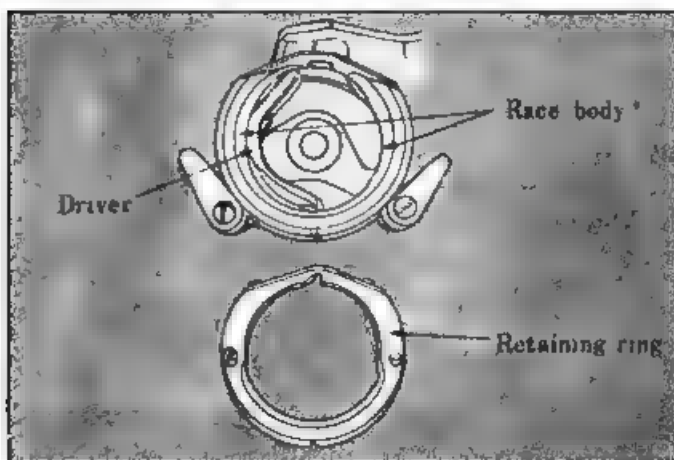
TAKING OUT THE HOOK



1. Raise needle to its highest position.
2. Raise the machine head away from you.
3. Take out bobbin case.
4. Push latch levers down and remove retaining ring
5. Remove hook by grasping center post of hook.

NOTE: When needle is lowered down, the hook cannot be taken out.

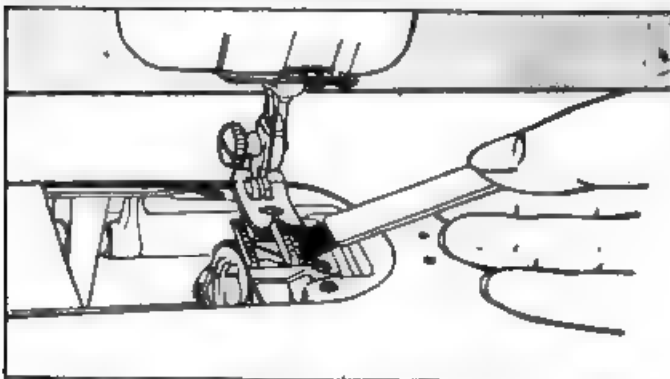
CLEANING OF SHUTTLE RACE



1. Remove accumulated lint and thread from the retaining ring, hook, driver and race body with brush.
2. Wipe them cleanly with cloth imbued slightly with machine oil.
3. The hook, too, may be cleaned in the same way.

For assembling the parts, follow the same order in reverse.

CLEANING OF FEED DOG



1. Take out needle plate by loosening the screw on it.
2. Clean upper part of feed dog and shuttle race body with brush.

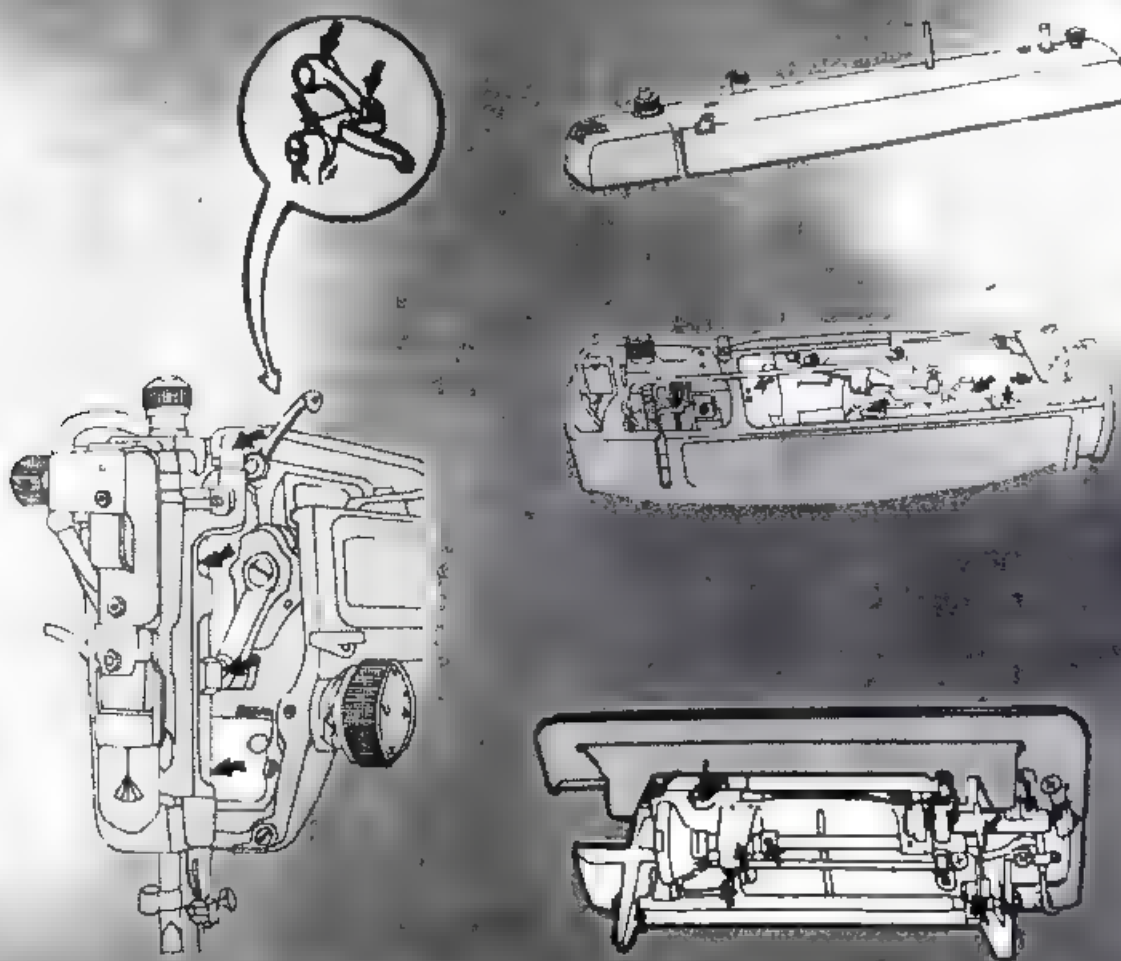
Oiling

Oiling for the moving part of the machine is the key to keep the smooth and silent operation. Apply machine oil carefully to all of the various oiling points shown in this page.

After oiling, run the machine fast without thread and with the presser foot up and wipe off the excess oil completely with a scrap material in order to avoid oil stain.

OIL ONCE A WEEK, IF THE MACHINE IS USED FOR ONE HOUR A DAY.

OIL EVERY DAY, IF THE MACHINE IS USED FOR MANY HOURS A DAY.



- NOTE:
1. If the machine is not used for a long time, oil will coagulate and the rotation of the machine becomes heavy. Apply a small amount of benzine to oiling points and run the machine for a few minutes. Then, wipe the machine cleanly and oil to oiling points.
 2. Over oiling of motor is not recommended. One or two drops twice a year will suffice.

Check List for Better Sewing

IF MATERIAL IS NOT FED

1. Feed dog is down.
2. Stop motion knob is loose.
3. Stitch length regulator is at 0.

IF NEEDLE BREAKS

1. Needle is inserted incorrectly.
2. Needle clamp screw is loose.
3. Bent needle is used.
4. Upper threading is not correct.
5. Upper thread tension is too tight.
6. Wrong needle and thread for cloth being sewn are used.
7. Material pulled excessively.

IF LOOPS FORM ON FABRIC

1. Tension of upper or lower thread is wrong.

IF MATERIAL BECOMES CREASY

1. Thread tension is too tight.
2. Threading is not correct.
3. Thread is caught by something.
4. Lower thread is unevenly wound on bobbin.

IF UPPER THREAD BREAKS

1. Upper threading is not correct.
2. Needle eye is not sharp.
3. Upper thread is too large for needle eye.
4. Upper thread tension is too tight.

IF LOWER THREAD BREAKS

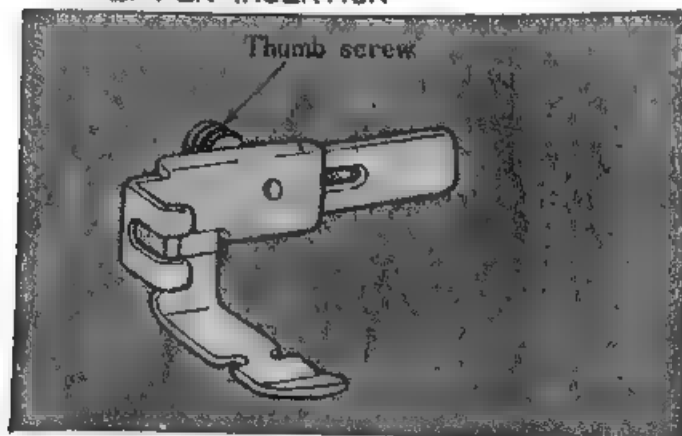
1. Lower thread is entangled in shuttle.
2. Lower thread tension is too tight.
3. Lower threading is not correct.

IF MACHINE SKIPS STITCHES

1. Needle is not sharp and straight.
2. Needle is inserted incorrectly.
3. Wrong needle and thread for cloth being sewn are used.
4. Upper threading is not correct.
5. Lint is clinging to under-side of needle plate.

Using Special Attachments

ZIPPER INSERTION


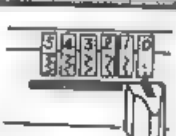





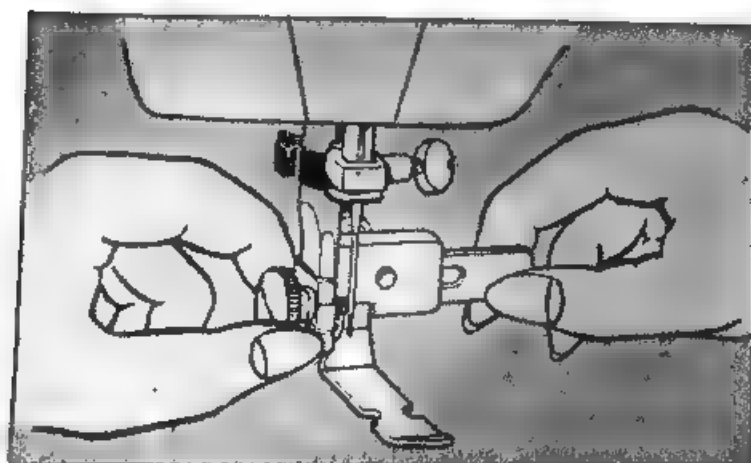
Use zipper foot to sew various kinds of zipper. It can be adjusted to either the right or left side of the needle.

When the zipper is to the right of the needle, slide the foot to the left of the needle by loosening the thumb screw located at the back.

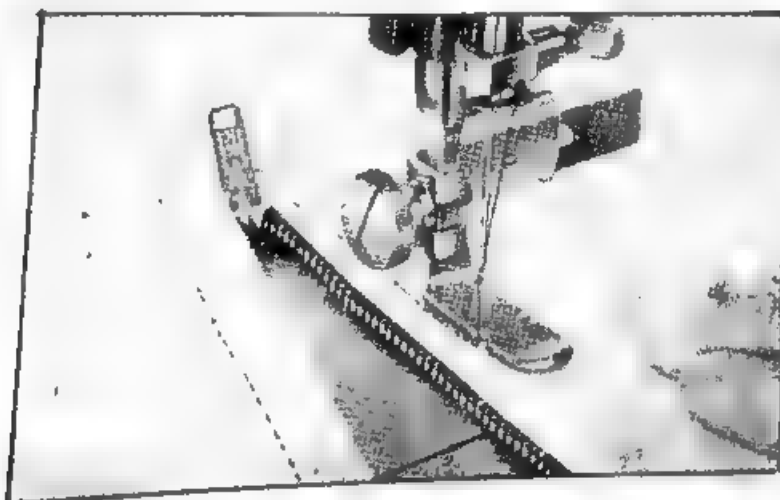
When the zipper is to the left side of the needle, slide the foot to the right of the needle.

SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
2-3	0	Zipper foot	Norm	According to the material

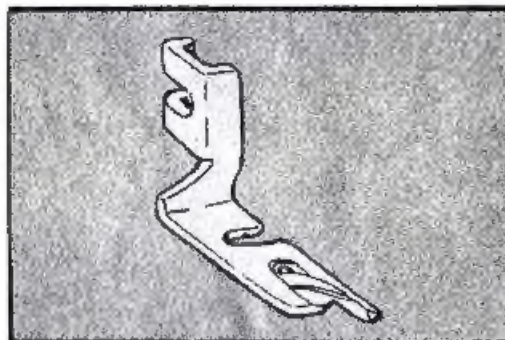


1. Lower needle into the side notch of the foot and check position of the foot to avoid needle striking the foot.
2. Fasten thumb screw to lock the foot into position.
3. Fold edge of the material by about 2cm (3/4") and place zipper under the folded portion of the material where you wish to attach the zipper.
4. Stitch close to the edge of the zipper by guiding the side of the zipper foot along the zipper teeth.
5. To sew on the opposite side of the zipper, loosen thumb screw and slide the foot in the same way.


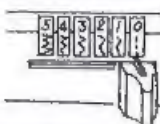





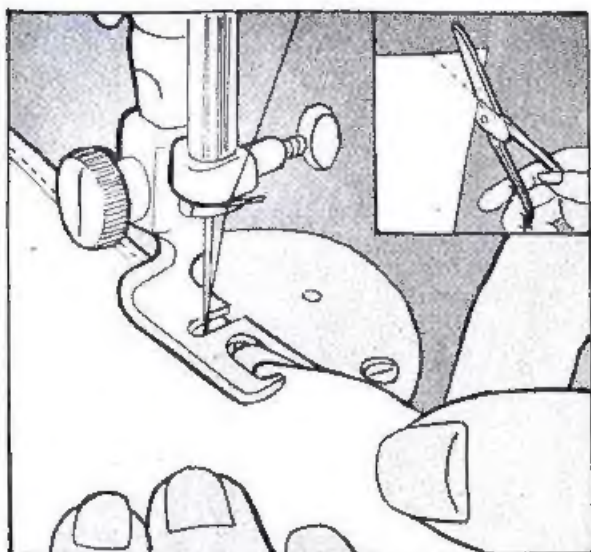
NARROW HEMMING

By using narrow hemmer foot, you can make folded hem stitch which is very useful for the edge of the work.



SET YOUR SEWING MACHINE AS PER FOLLOWING TABLE.

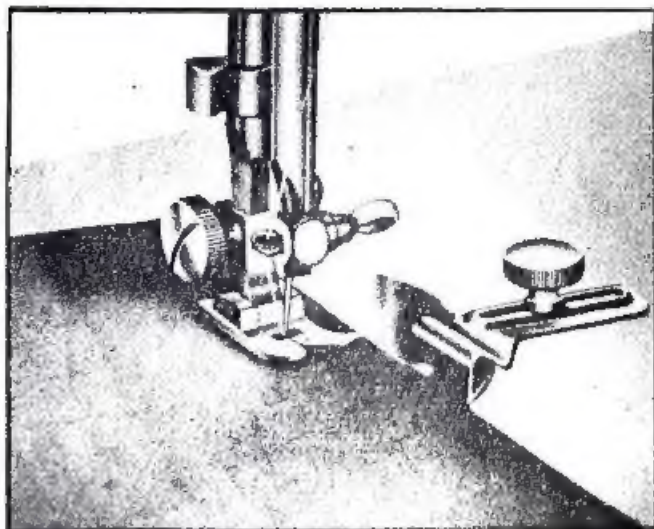
Stitch Length	Zigzag Width	Presser Foot	Drop Feed	Pressure Adjuster
				
2-3	0	Narrow hemmer foot	Norm	According to the material



1. Cut top corner of the material about 0.3cm (1/8")
2. Put material wrong side up and insert cut off angle into the opening of the foot.
3. Pull out material until the needle touches and lower presser foot.
4. Start to sew gently by pulling both threads backward.
5. Continue to sew with medium speed by guiding the material, so that the edge of the roll of material is fed into the scroll opening of the foot.

NOTE: Zigzag narrow hemming can be done in the same manner, however set zigzag width under 3.

CLOTH GUIDE



The cloth guide helps to make straight and parallel stitches follow the edge of the material. To attach the cloth guide, place it over two holes to the right of the needle plate in the sewing machine bed. Place thumb screw through the guide slot, adjusting the guide for the desired distance and fasten it securely.

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